CHAPTER 3

Man Meets Frog: Perceptions, Use and Conservation of Amphibians by Indigenous People

Indraneil Das

I. INTRODUCTION

Maybe you understand frogs, and maybe you don't understand 'em; maybe you've had experience, and maybe you an't only a amature . . .

Mark Twain (1867) in "The celebrated jumping frog of Calaveras County"

HUMANS and frogs, much like frogs and water, are inextricably linked. The association, thus, between early human consciousness and these largely aquatic organisms is substantial and widespread in many cultures. This chapter explores both the antiquity of the human-amphibian relationship worldwide, synthesizing data from prehistoric and ancient historic textual sources (including bestiaries, herbals and pharmacopoeias), and more recent attitudes to amphibians. The sources of information were data from zoo-archaeological material or cultural artifacts; folklore and indigenous beliefs; ancient (including religious) texts, rhymes, and taboos; uses in societies for narratives of their social functions, pharmacological, culinary and agricultural researches; representations in advertisement and postage stamps, toys, models and other products; and for food and medicine by both Western and indigenous (non-Western) societies around the world.

There appears to be a tendency by practitioners of modern science to dismiss nativism as absurd and illogical, and the use of animal-derived drugs as superstition. Thus, some established local knowledge has been reported by scientists in recent times, ranging from the discovery of species (Myers and Funkhouser 1951; Aggarwal 2004; Das 2007), their

ecological characteristics (Kuzmin and Maslova 2003), to their potential use by man, especially as food (Kiyasetuo and Khare 1986; Ye *et al.* 1993), in traditional Chinese medicine (e.g. Zhou *et al.* 2006), for enhancement of senses in hunting (Stebbins and Cohen 1995) or for poisoning darts (Myers *et al.* 1978). In writing for a mainly western audience, Hopkins (1999, 2004) included frogs as represented in world cuisine in works entitled "Strange Foods" and even "Extreme Cuisine", while admitting their widespread use in both eastern and western cultures, as a source of protein-rich food.

Nomenclature of amphibians in this essay follows Frost *et al.* (2006) as revised by Frost (2009).

II. PERCEPTIONS: PREHISTORY TO RECENT

A. Vernacular Names and Folk Taxonomy

The existence of vernacular names of particular species, by themselves, are evidence that they have been "discovered and named" by indigenous cultures before their formal scientific (currently, Linnean) naming. In well-explored tropical areas, however, correspondence between folk nomenclature and scientific nomenclature may be extraordinarily close. Diamond (1966), in his studies of forest birds in the New Guinea highlands, reported such correspondence with the language of the Fore people (famously known for their consumption of human brains and of the unique degenerative disease of the central nervous system called '*kuru*'). The origin of Fore classification was concluded to be probably utilitarian. Comparable studies for amphibians may be buried in the anthropological literature, e.g. Dunn (1975), who reported 16 vernacular names for a fauna then known to comprise 13 biological species of amphibians, amongst the Temuans, an indigenous tribe from southern Peninsular Malaysia. Berlin (1992) considered vernacular name formation and folk taxonomy to be the result of man's innate curiosity about the natural world, and an alternative view to the utilitarian explanation is that humans have catalogued the living world for a variety of reasons and in a variety of contexts, each reflecting something of nature as perceived, but none can be termed natural unless the word is qualified (Stevens 1994). The fact that indigenous frog names are rather close to the syllabilization of their calls appears to be evidence that early humans took great interest in these organisms. It also supports Rand's (2001) thesis that studies of bioacoustics go back to human's distant past.

Amphibians, as a distinct group, are typically recognized and named by indigenous and other peoples the world over. However, instances where amphibious creatures are confused with the group (e.g., sea turtles, by school children; Yen *et al.* 2004) are on record. Appendix 1 lists the vernacular equivalent of the word "frog" (and where available, "toad" and "tree frog") from around the world. Berlin (1992) listed additional names in 29 (mostly Neotropical) languages and reported that a large proportion contained the sound "*r*" (phonetically, an alveolar trill), or the closely-related (lateral liquid), '*l*', seemingly from the onomatopoeic source of frog names. An examination of names from Appendix 1, however, shows that some regional languages (e.g. those of Asia, including the Indian subcontinent) do not follow this pattern, which may be the effect of different amphibian lineages (e.g., members of the family Ranidae in Europe versus Dicroglossidae in Asia) that are found in close proximity to humans, and their differences in vocalization. Further work in this area is clearly indicated.

There are a number of amphibian examples where folk knowledge identified more species than did scientific knowledge. Theobald (1860), for instance, wrote that the Karen tribesmen of Burma recognized 14 frog species, whereas the then authority on the group, Edward Blyth (1810–1873), Curator of Natural History Museum of the Asiatic Society of Bengal at Calcutta, was reported to be able to recognize only 13. Correspondence between local taxonomy and the contemporary scientific one may not always be exact, especially in cases of morphologically similar species in some localities. Channing (2001) mentioned that